Stainless Steel

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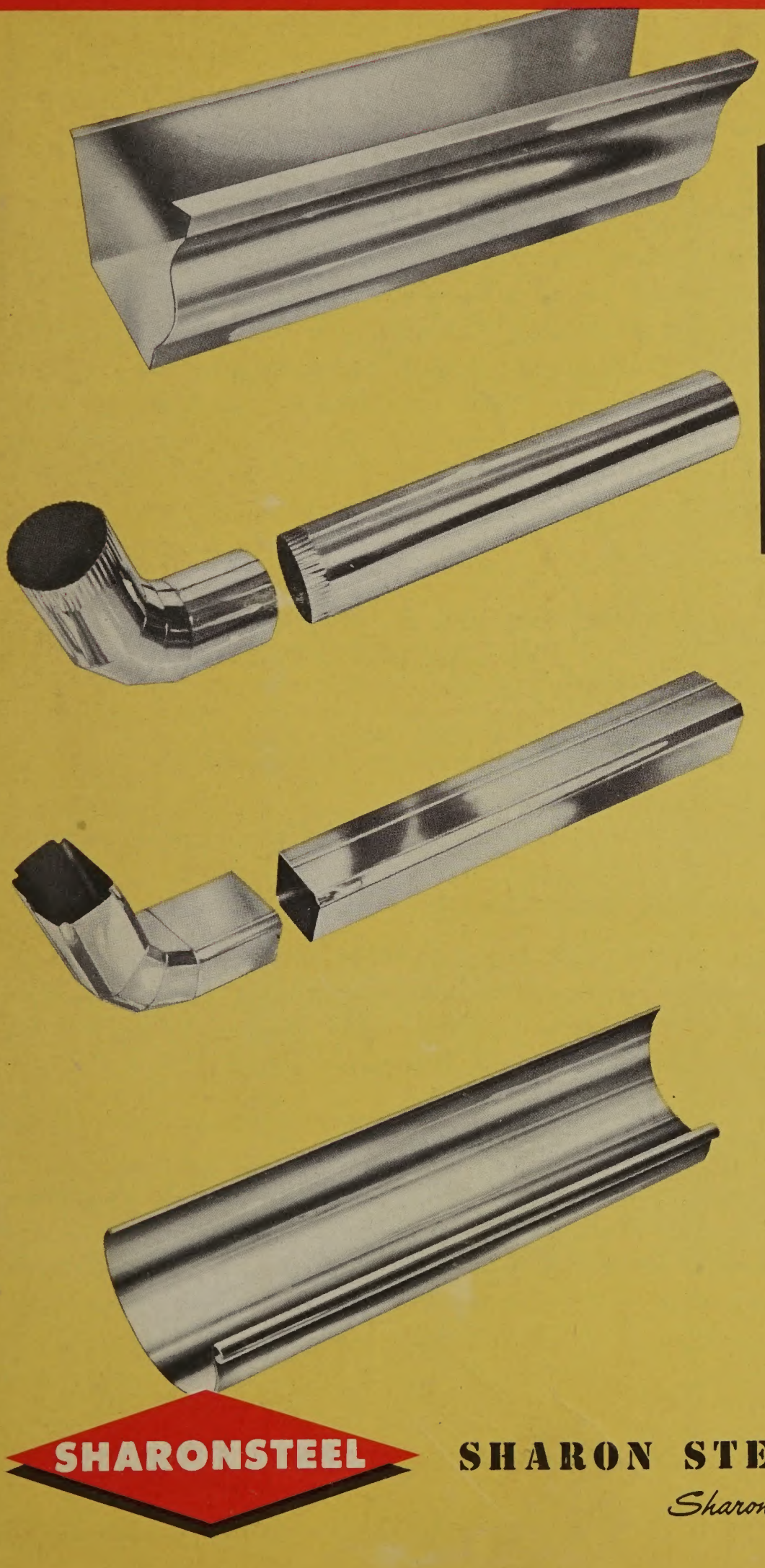


FOR ROOF DRAINAGE SYSTEMS

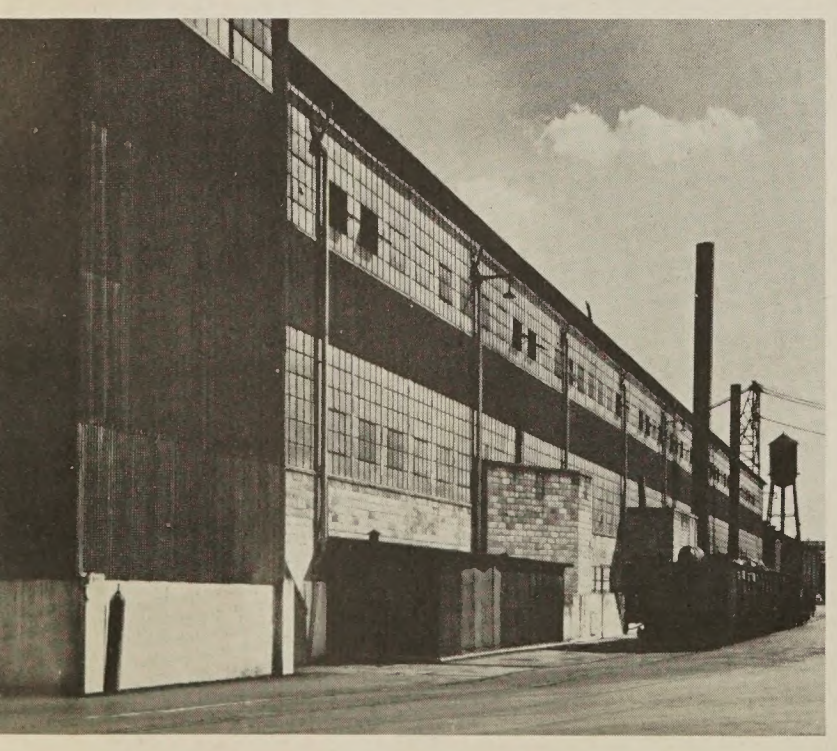
- CONDUCTOR PIPE
- GUTTER
- DOWNSPOUT
- ACCESSORIES
- FLASHING
- RIDGE ROLL

SHARONSTEEL

SHARON STEEL CORPORATION

Sharon Pennsylvania

how to design and specify SHARONSTEEL



When a home builder specifies his roof drainage system to be made of Sharon Stainless Steel, he seeks the same built-in quality in gutters, downspouting, flashing and accessories that he enjoys in his automobile, refrigerator, cutlery and all other "made of steel" articles he depends upon for long service and enduring style.

STRENGTH TO DO THE JOB

Roof drainage systems of Sharon Stainless Steel Type 301 can withstand heavier accumulations of ice, snow and air borne debris without sagging. This superior strength is best measured in "yield" terms, or that load which the material will sustain without permanent deformation. The following table shows average yield strength of the more common materials used on roof drainage systems. (Note the almost double superiority of Sharon Stainless.)

Material	Yield Strength per sq. in.
Sharon Stainless Type 301	40,000
Galvanized Iron	28,000
Cold Rolled Copper or Strip (5-6% cold reduced)	20,000
Soft Copper Sheet or Strip	10,000

ABRASION RESISTANCE

Roof gravel, dirt, leaves or other abrasive debris washing over softer metals often wear elbows and valleys, resulting in leakage and system failure. The dense, hard surface of Sharon Stainless resists this abrasive action.

CORROSION RESISTANCE

Sharon Stainless Type 301 is virtually immune to atmospheric corrosion. Stainless Steel resists the galvanic action caused by leaves or other debris. Stainless is a solid homogenous metal. It will not chip, peel, or bleed off to stain surrounding areas. Patina type corrosion will *not* form on stainless.

USE SHARON STAINLESS STEEL FOR ROOF

roof drainage systems . . .

EXPANSION CHARACTERISTICS

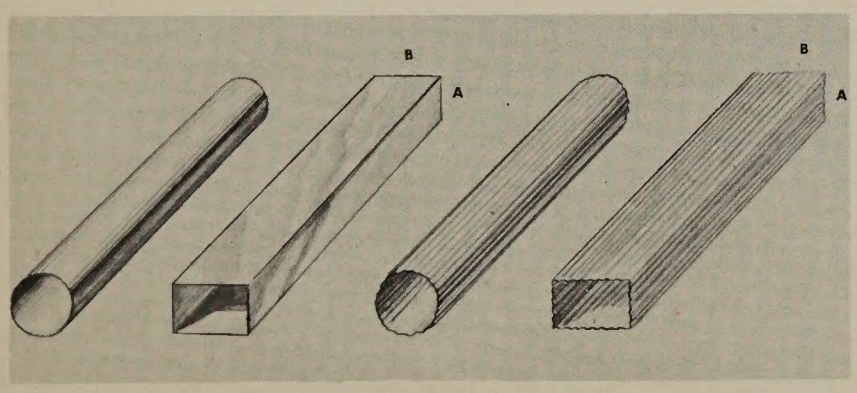
Thermal stresses caused by severe temperature changes have little effect on Sharon Stainless Steel, Type 301. Investigations indicate that soft copper may fail in box gutter linings because of its inability to properly transmit thermal stresses to expansion joints. Tests prove that only extensive reinforcement, or substitution of costly heavy weight cold rolled copper will make a copper system acceptably immune to this failure.

Copper bleeds and corrodes, causing discoloration of the building.

Stainless steel — for its permanence and beauty — was the material chosen for the Chrysler building.

RECOMMENDED STANDARD DIMENSIONS OF STAINLESS STEEL RECTANGULAR AND ROUND DOWNSPOUTING

List Size	Length	Corrug.	Plain	Side A	Side B
(Rectangular)					
2″ (1 x 2)	10′	yes	yes	1⅞″	2⅜″
3″ (2 x 3)	10′	yes	yes	2¼″	3″
4″ (3 x 4)	10′	yes	yes	2¾″	4-3/16″
5″ (4 x 5)	10′	yes	yes	3⅝″	5-1/6″
(Round)					
2″	10′	yes	yes	.....	.....
3″	10′	yes	yes	.....	.....
4″	10′	yes	yes	.....	.....
5″	10′	yes	yes	.....	.....
6″	10′	yes	yes	.....	.....



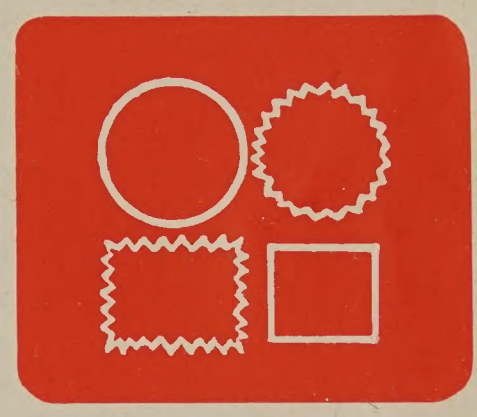
RECOMMENDED STANDARD FORMS

Gutters:

Standard types include single bead lap joint, single bead slip joint (size 4″ to 10″ — 10′ lengths); double bead slip joint may be ordered to specification. For complete details on gutters, refer to page 8.

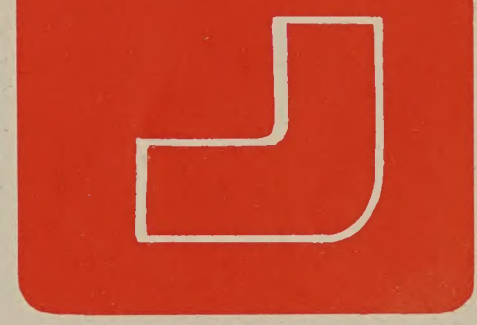
Downspouts:

Four types of Sharon Stainless downspouts are recommended: round plain, round corrugated, rectangular plain and rectangular corrugated, cut to 10′ length. Longer sections may be fabricated to specification.



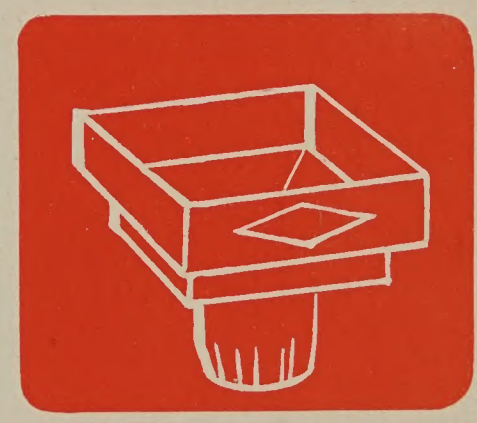
Elbows and Shoes:

Elbows and shoes of Sharon stainless—2″, 3″, 4″, 5″ and 6″ round or rectangular downspouts, either plain or corrugated. Elbows —45°, 60°, and 90° angles: Shoes—75° angles only.



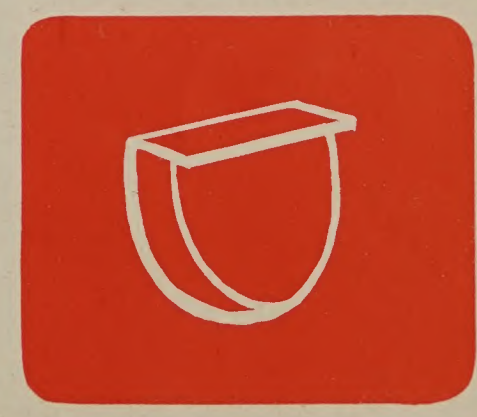
Downspout Heads:

A line of standard design downspout heads is usually available from your fabricator. Special leader heads may be manufactured to suit architect or customer.



Mitres and Ends:

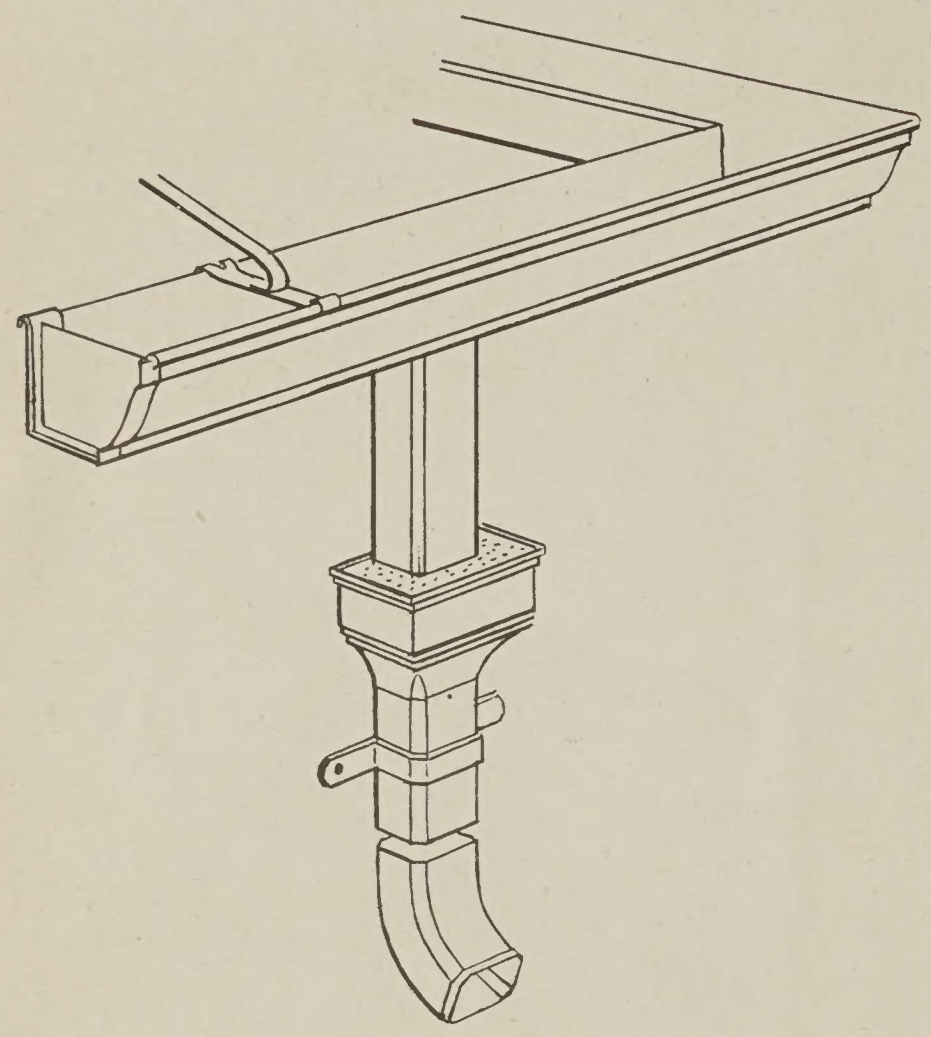
Mitres and ends are usually available to fit all standard round and rectangular gutters. An adequate flange is allowed for soldering to gutters. End caps (lap and slip joint type) are supplied for most single and double bead gutters. "Specials" may be made to order.



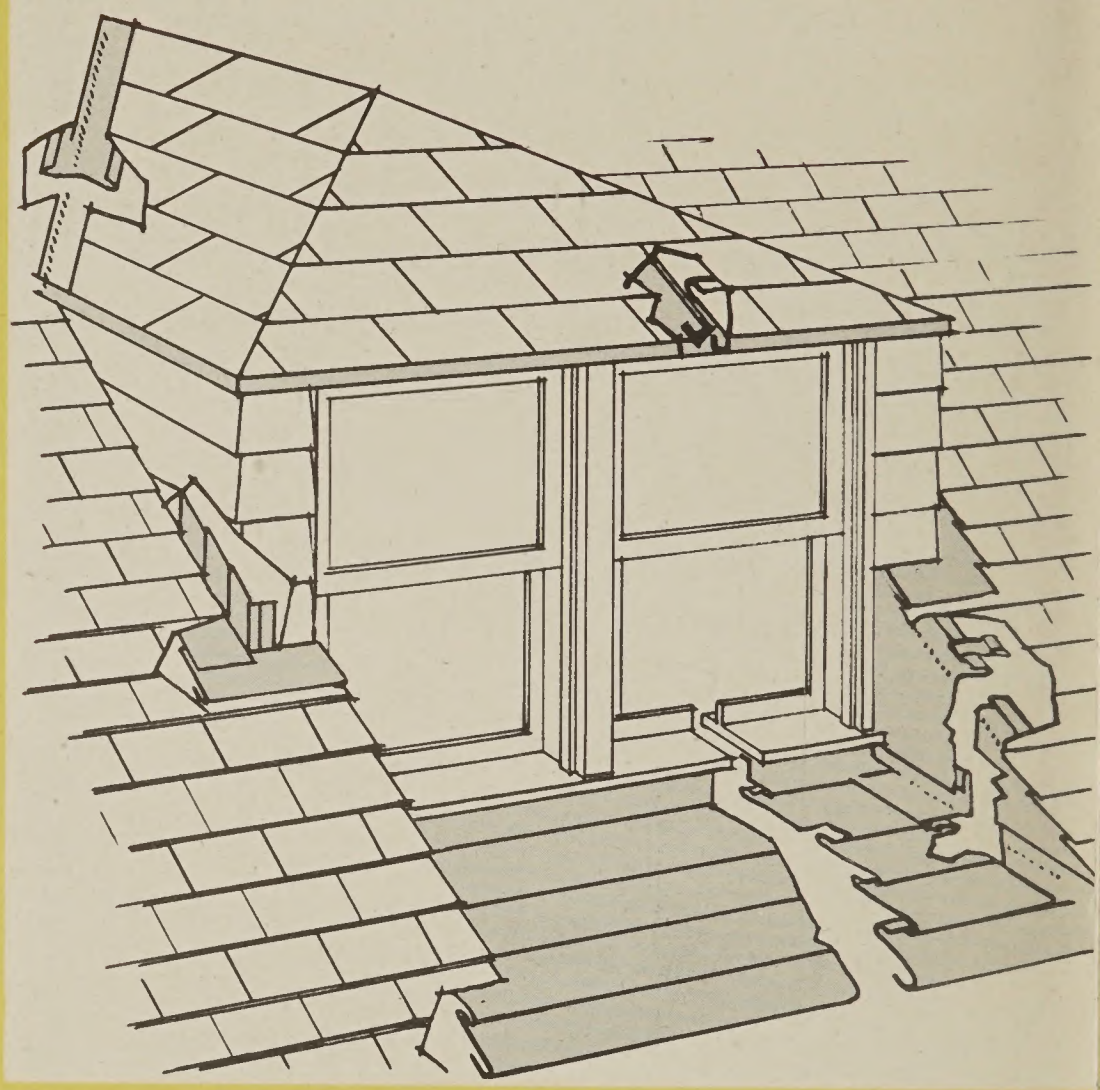
DRAINAGE SYSTEMS

typical specification details for

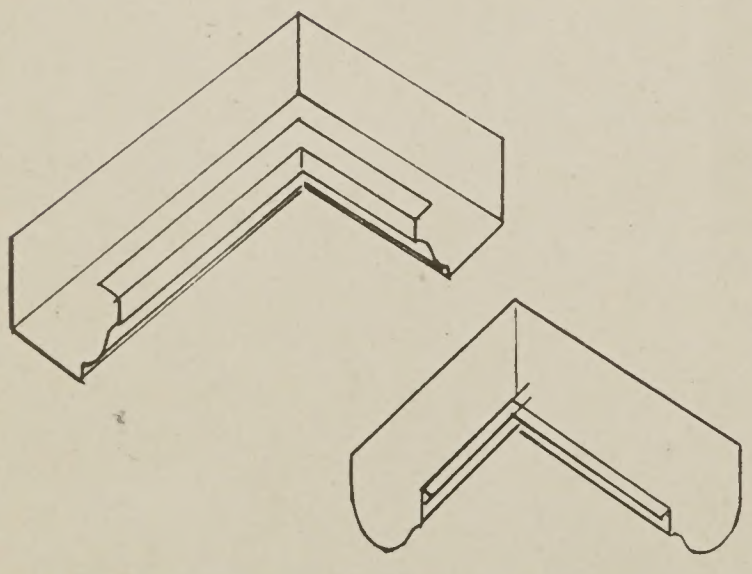
STAINLESS STEEL GUTTER, LEADER AND ACCESSORIES



STAINLESS STEEL FLASHING for Dormer Window and Recess



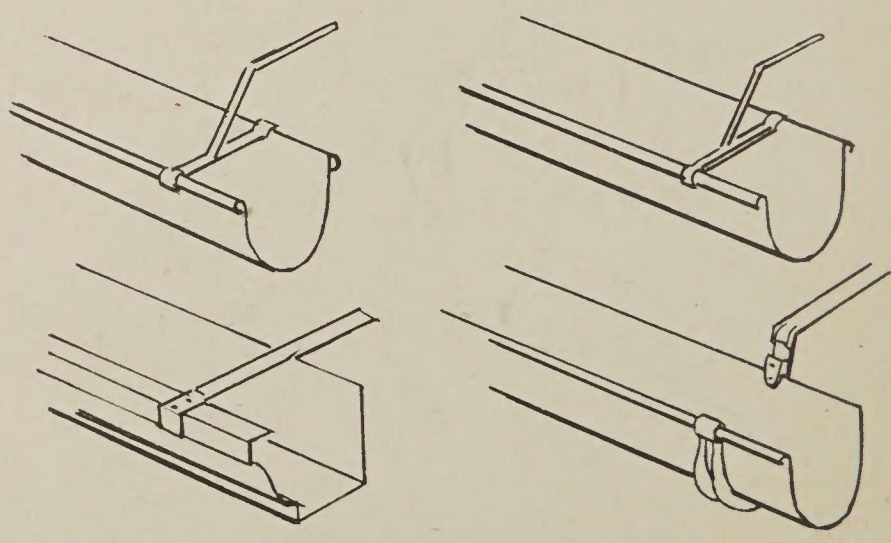
STAINLESS STEEL MITRES (for Inside and Outside Gutters)



STAINLESS STEEL STRAP HANGERS

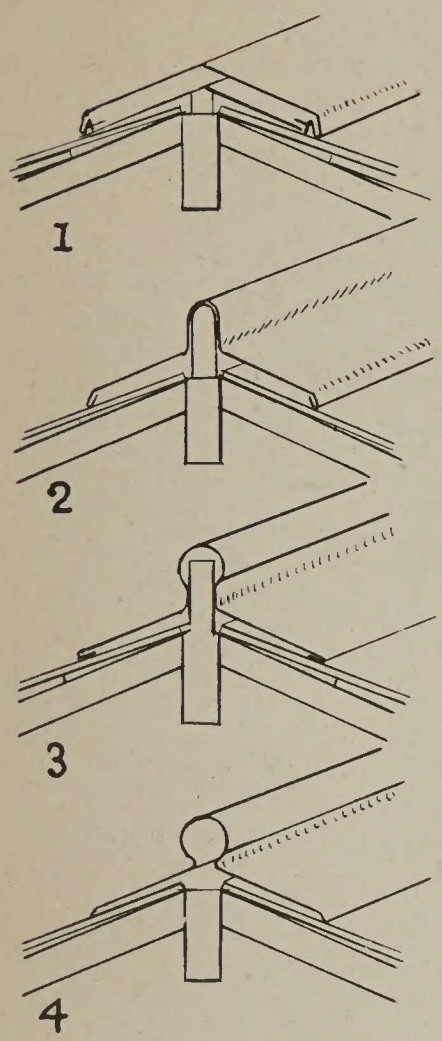
For single and double bead gutters—Single bead gutters should have strap hanger that helps support gutter.

Spacing or hangers should not be over 36″.



USE SHARON STAINLESS STEEL FOR ROOF

SHARONSTEEL roof drainage systems.



STAINLESS STEEL RIDGE ROLLS

Fig. 1 shows low ridge-flashing without a projection roll. Flashing is nailed to ridge boards with stainless steel nails. Flashing 1″ extension is bent down to roof to shed water and cover nail heads.

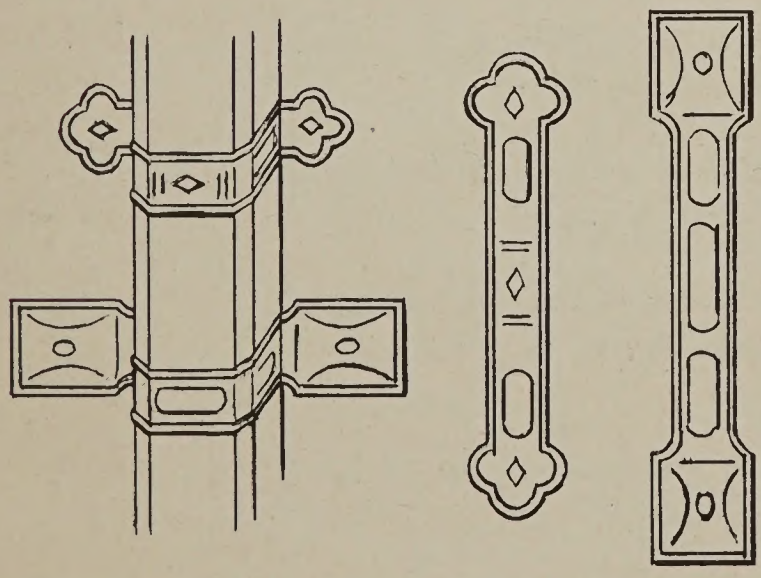
Fig. 2 requires specially shaped ridge-piece for flashing roll. Roll is secured by screws in side apron, if more than 4″ wide, should be stiffened against wind by 3/16″ x 1″ stainless steel clamps, or straps, about 30″ apart.

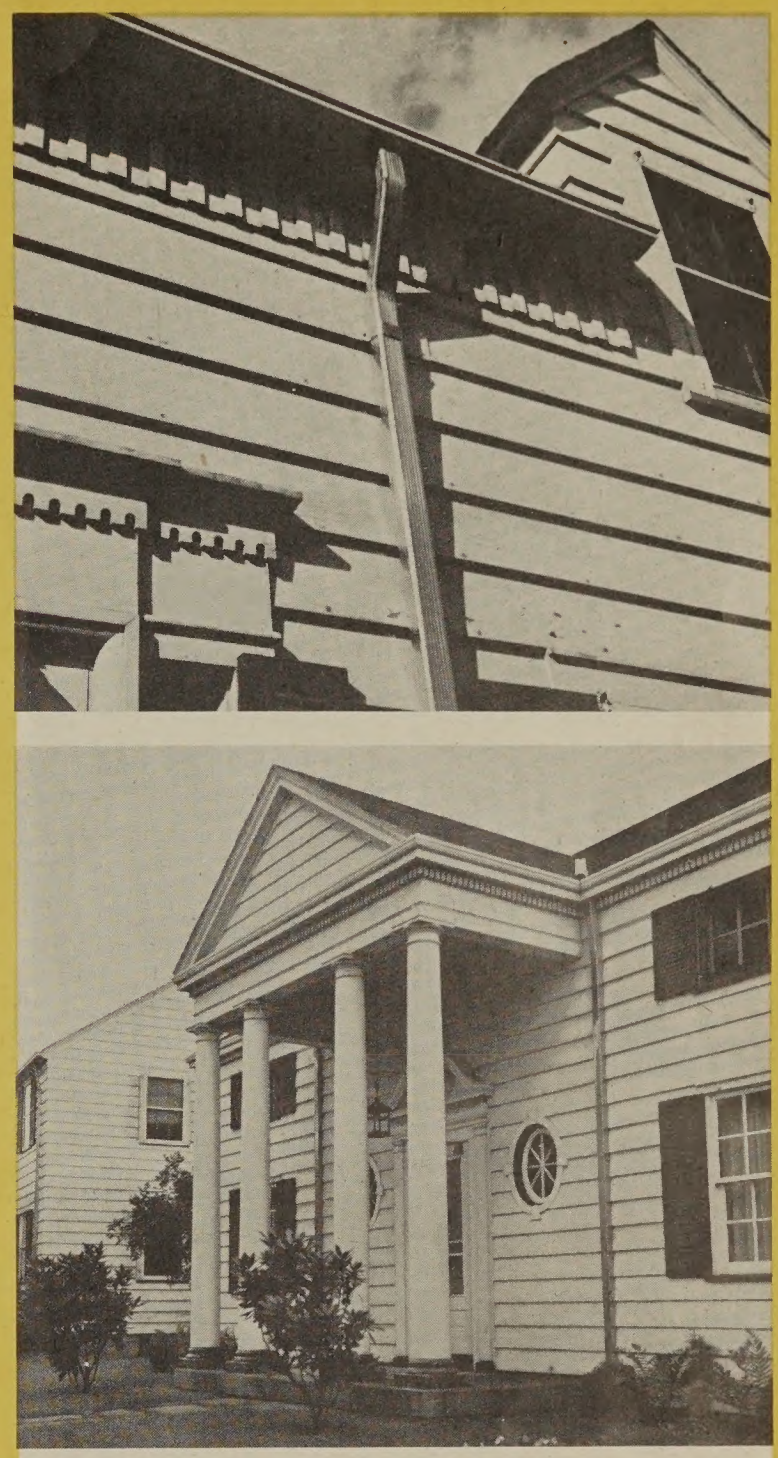
Fig. 3 does not require a special ridge-piece. An excellent way of securing a large ridge roll as board keeps metal in place and stainless steel screws can be fastened to ridge-board, making it unnecessary to drill shingles or slates.

Fig. 4 shows ridge roll used without ridge board. Roll is fastened with stainless steel screws set through washers — with over-sized holes — into holes drilled in the shingles.

STAINLESS STEEL LEADER STRAPS

Stainless Steel Leader Straps shown as supplied and as applied to leader. Same straps can be used with round and corrugated leaders.





Typical Stainless steel roof drainage systems used in home construction.

DRAINAGE SYSTEMS

installation tips for SHARONSTEEL

Forming Stainless Steel Box Gutters

Roll Forming Stainless Steel

1. Protect stainless steel during construction from damage that might result from walking on it, leaning ladders against it, etc.

2. Make the same expansion and contraction allowances as for copper or galvanized iron, less than for aluminum or duralumin.

3. See that all surfaces are flush and that all nail heads are set. Install gutter, roofing, flashing, etc., on dry felt, paper or other suitable material.

4. Protect the surface at all times to prevent scratches or "dings." Keep all work surfaces and tools as clean as possible.

5. Use stainless steel hangers, cleats, nails, hooks and strainers wherever

AVERY

USE SHARON STAINLESS STEEL FOR ROOF

possible. Should stainless steel fittings not be available, lead-covered bronze will give proper color effect and will prevent contact corrosion. *Do not use ordinary steel nails or fittings.*

6. Solder with a high-grade solder having a tin-content of 50 to 70%. Flux with special stainless steel flux, raw hydrochloric acid, or a flux containing one-half uncut muriatic acid and one-half cut acid. Best results are obtained by using a soldering iron that is a bit hotter than that used on galvanized iron. All traces of acid or flux *must* be removed immediately after soldering.

7. After installation soldering, wash all joints with a washing soda solution and rinse thoroughly with clean water.

8. Upon completion of the job, clean the whole installation, being careful to remove all traces of dirt or flux. Use a non-scouring cleansing agent and *fibre* brushes. *Do not use steel brushes* other than stainless steel. Proper cleansing after installation may mean the difference between a satisfactory or an unsatisfactory job. Rinse thoroughly with clean water to remove all traces of cleansing agent.

Soldering Stainless Steel Downspout

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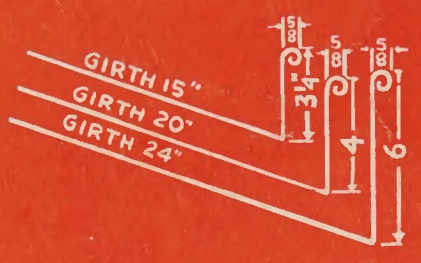
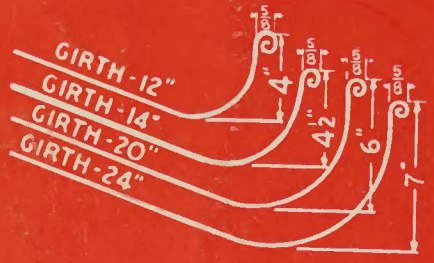
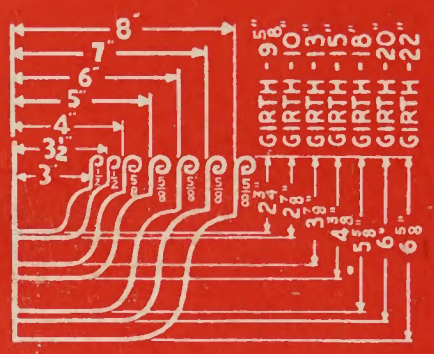
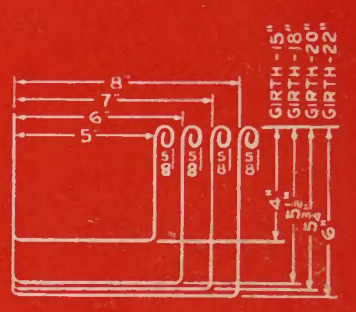
DRAINAGE SYSTEMS

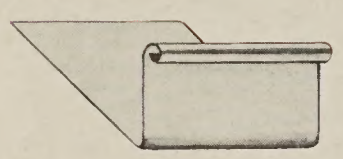
STOCK GUTTER STYLES AND SIZES

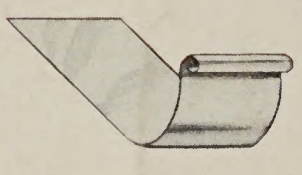


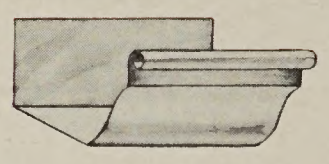


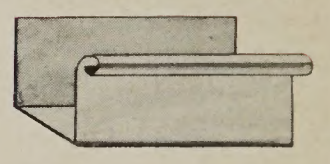


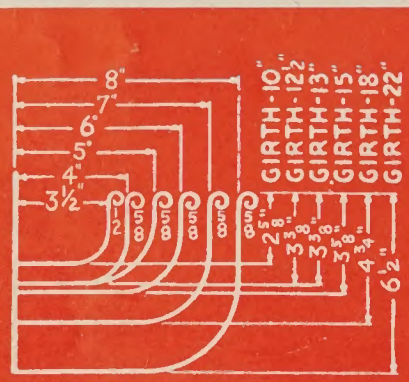


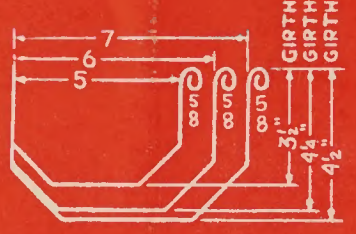


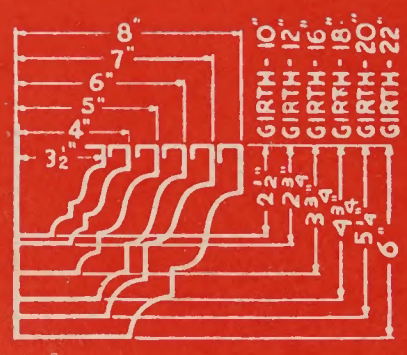


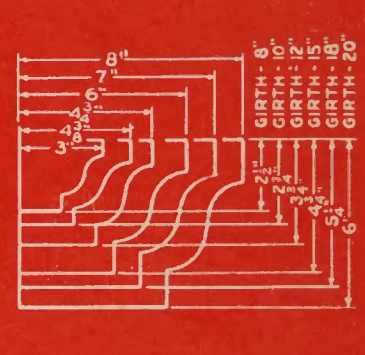


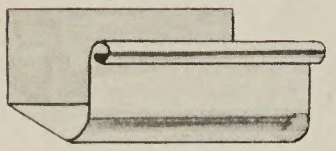


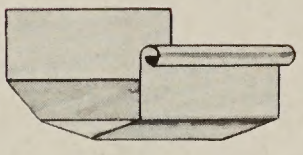


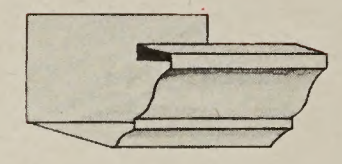


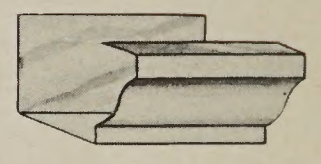












HOW TO ORDER SHARON STAINLESS

Care should always be taken to specify the correct type of Sharon Stainless. Architects and builders should instruct fabricators or sheet metal shops in this detail. The following may be used as a simple ordering rule:

"All sheet metal work for roof drainage systems shall be of .015" thick, type 301, cold rolled Sharon stainless steel in a soft temper."

For full details and cost comparisons of Sharon Stainless systems, fill out the attached reply card and drop it into today's mail. There is no obligation and the facts will prove that you will be ahead with a roof drainage system made of Sharon Stainless Steel.

SHARON STEEL CORPORATION *Sharon, Pennsylvania*

PRODUCTS OF SHARON STEEL CORPORATION AND SUBSIDIARIES: THE NILES ROLLING MILL COMPANY, NILES, OHIO; DETROIT TUBE AND STEEL COMPANY, DETROIT, MICHIGAN; BRAINARD STEEL COMPANY, WARREN, OHIO; SHARONSTEEL PRODUCTS COMPANY, DETROIT, MICHIGAN, AND FARRELL, PENNSYLVANIA; CARPENTERTOWN COAL & COKE CO., MT. PLEASANT, PENNA.; FAIRMOUNT COKE WORKS, FAIRMOUNT, W. VA.; MORGANTOWN COKE WORKS, MORGANTOWN, W. VA. Hot and Cold Rolled Stainless Strip Steel—Alloy Strip Steel—High Carbon Strip Steel—Galvanite Special Coated Products—Cooperage Hoop—Detroit Seamless Steel Tubing—Seamless Steel Tubing in Alloy and Carbon Grades for Mechanical, Pressure and Aircroft Applications—Electrical Steel Sheets—Hot Rolled Annealed and Deoxidized Sheets—Galvanized Sheets—Enameling Grade Steel—Welded Tubing—Galvanized and Fabricated Steel Strip—Steel Strapping, Tools and Accessories.

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